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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/739,511	12/18/2000	Christopher Stobart	PHD 99,184	3117
24737	7590	01/14/2005	EXAMINER	
PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			MILLS, DONALD L	
			ART UNIT	PAPER NUMBER
			2662	

DATE MAILED: 01/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/739,511

Applicant(s)

STOBART, CHRISTOPHER

Examiner

Donald L Mills

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informalities:

Regarding claim 1, the claim does not define a clear preamble, transition, and body. The Examiner suggests a transitional statement between the preamble and body of the claim to clearly distinguish the preamble from the body of the claim. For example, *a synchronous TDD system for the transmission of speech and/or data between a master unit and at least two slave units, which are associated with the master unit, comprising a master unit....*

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 7, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Chieu et al. (US 5,515,366), hereinafter referred to as Chieu.

Regarding claim 1, Chieu discloses a method for direct communication in a TDMA radio communication system, which comprises:

The master unit including transmission means for transmitting a synchronization signal in fixed time slots and the slave units including respective receiving means for receiving and processing the synchronization signals transmitted by the master unit (Referring to Figure 3A,

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the base station 2 transmits in time slot S a synchronization and exchange of identification and control data to the portable units 4, inherently utilizes by the portable units 4 for synchronization. See column 4, lines 55-60.)

The receiving means of the slave units allocating fixed time slots which are not used for transmission of synchronization signals they are ready to receive or fixed time slots they are ready to receive with a setting which does not allow the reception of signals from the master unit (Referring to Figure 5A, in step 110, listens for an acknowledgement packet AP transmitted in the base station channel during a second predetermined period of time, Tpr. See column 6, lines 50-53.)

The slave units also including transmission means which use one of the time slots in which the receiving means of the slave units are ready to receive, but reception of signals from the master unit is not enabled, in order to transmit signals for initiating a communication between themselves (Referring to Figure 5A, in step 108 the primary portable unit transmits in the base station channel a calling packet CP during a first predetermined period of time, TPS, inherently during the period of time when reception of signals from the master unit is not enabled, for establishing direct communication between the portable units. See column 6, lines 47-49.)

Regarding claim 2, Chieu discloses *the transmission means transmits the synchronization signal at regular intervals and regularly interrupt a regular transmission again* (Referring to Figure 3A, time slot S, comprising synchronization information, is transmitted at regular intervals with a pause between intervals (Ts-Tps and Tr-Tpr.) *and the receiving means of the slave units during this regular interruption ready to receive a signal for initiating a*

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communication with another slave unit of the same master unit (Referring to Figure 5A, in step 110, listens for an acknowledgement packet AP transmitted in the base station channel during a second predetermined period of time, Tpr, for establishing direct communication between the portable units of the same base station. See column 6, lines 50-53.)

Regarding claim 7, Chieu discloses *the receiving means of the slave units continue the reception of synchronization signals from the master unit during a communication between two slave units in time slots which are not required for this communication* (Referring to Figure 3A, each frame is assigned a predetermined time slot comprising time slot S for synchronization which is continually received by the portable units 4 from the base station when the portable units 4 are not communicating directly with each other. See column 4, lines 57-60.)

Regarding claim 9, Chieu discloses a method for direct communication in a TDMA radio communication system, which comprises:

Transmission of a synchronization signal by the master unit in fixed time slots, which synchronization signal is received by the slave units (Referring to Figure 3A, the base station 2 transmits in time slot S a synchronization and exchange of identification and control data to the portable units 4, inherently utilizes by the portable units 4 for synchronization. See column 4, lines 55-60.)

Switching the slave units so as to be ready to receive in fixed time slots in such a manner that it is impossible to receive signals from the master unit (Referring to Figure 5A, in step 110, listens for an acknowledgement packet AP transmitted in the base station channel during a second predetermined period of time, Tpr, inherently impossible to receive signals from the base station during this period. See column 6, lines 50-53.)

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Enabling the slave units to transmit a signal during such a time slot in conformity with step which signal can be received by the other slave units during the relevant time slot/Enabling the slave units to establish direct communication between themselves upon reception of a signal transmitted by a first slave unit in conformity with step c by a second slave unit during a time slot in conformity with step b (Referring to Figure 5A, in step 108 the primary portable unit transmits in the base station channel a calling packet CP during a first predetermined period of time, TPS, inherently during the period of time when reception of signals from the master unit is not enabled, for establishing direct communication between the portable units. See column 6, lines 47-49.)

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3, 6, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chieu et al. (US 5,515,366), hereinafter referred to as Chieu, in view of Magana (US 5,956,326).

Regarding claim 3 as explained above in the rejection statement of claim 1, Chieu discloses all of the claim limitations of claim 1 (parent claim.) Chieu does not disclose *the slave units are ready to receive at a frequency other than the frequency used by the master unit at fixed intervals during a time slot which is used for transmission of synchronization signals by the master unit.*

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Magana teaches a first carrier channel for transmission, comprising transmit control bit 4, and a different, second carrier channel for receptions, (See Figure 3, column 6, lines 24-25.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the FDD/TDD system of Magana in the method of Chieu. One of ordinary skill in the art would have been motivated to do so in order to provide an improved system and method for radio frequency communication which is low cost and requires less spectrum as taught by Magana (See column 2, lines 50-52.)

Regarding claim 6 as explained above in the rejection statement of claim 1, Chieu discloses all of the claim limitations of claim 1 (parent claim.) Chieu does not disclose *the transmission and receiving means of the slave units establish, after the initiation of the communication, between themselves a normal TDD connection with a frequency or with a code of an FHSS or a DSSS other than the frequency or code used by the master unit for the transmission of the synchronization signal.*

Magana teaches a first carrier channel for transmission, comprising transmit control bit 4, and a different, second carrier channel for receptions, (See Figure 3, column 6, lines 24-25.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the FDD/TDD system of Magana in the method of Chieu. One of ordinary skill in the art would have been motivated to do so in order to provide an improved system and method for radio frequency communication which is low cost and requires less spectrum as taught by Magana (See column 2, lines 50-52.)

Regarding claim 8 as explained above in the rejection statement of claim 1, Chieu discloses all of the claim limitations of claim 1 (parent claim.) Chieu further discloses *the*

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master unit is a base station and the slave units are handsets (Referring to Figure 3A, a TDMA radio communication system utilizes a base station 2 and portable units 4. See column 4, lines 39-40.) Chieu does not disclose *the system is a cordless communication system, notably a 902-928 MHz ISM band system.*

Magana teaches a cordless telephone system with reception and transmission at about 904 MHz and 925 MHz (See column 11, lines 11-16.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the FDD/TDD system of Magana in the method of Chieu. One of ordinary skill in the art would have been motivated to do so in order to provide an improved system and method for radio frequency communication which is low cost and requires less spectrum as taught by Magana (See column 2, lines 50-52.)

6. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chieu et al. (US 5,515,366), hereinafter referred to as Chieu, in view of Miyake et al. (US 5,903,618), hereinafter referred to as Miyake.

Regarding claim 4 as explained above in the rejection statement of claim 1, Chieu discloses all of the claim limitations of claim 1 (parent claim.) Chieu does not disclose *the transmission means of the master unit utilize an FHSS code for the transmission of the synchronization and the receiving means of the slave units normally receive with the same FHSS code, but in fixed time slots with a different FHSS code which can be used to initiate a communication with another slave unit.*

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Miyake teaches a two-way communication between two terminals through the base stations and peer-to-peer communication utilizing spread spectrum frequency hopping system where different frequency hopping rates are used, comprising synchronization information (See column 5, lines 54-64.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement spread spectrum frequency hopping method of Miyake in the system of Chieu. One of ordinary skill in the art would have been motivated to do so in order to provide a communication system which is more resistant to interference as taught by Miyake (See column 4, lines 57-60.)

Regarding claim 5 as explained above in the rejection statement of claim 1, Chieu discloses all of the claim limitations of claim 1 (parent claim.) Chieu does not disclose *the transmission means of the master unit utilize a DSSS code for the transmission of the synchronization signals and the receiving means of the slave units normally receive with the same DSSS code, but in fixed time slots with a different DSSS code which can be used to initiate a communication with another slave unit.*

Miyake teaches a two-way communication between two terminals through the base stations and peer-to-peer communication utilizing spread spectrum frequency hopping system where different frequency hopping rates are used, comprising synchronization information (See column 5, lines 54-64.) Miyake further teaches that one can use the direct spreading system as well (See column 5, lines 17-18.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement direct spreading method of Miyake in the system of Chieu. One of

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ordinary skill in the art would have been motivated to do so in order to provide a communication system which is more resistant to interference as taught by Miyake (See column 4, lines 57-60.)

Response to Arguments

7. Applicant's arguments filed September 20, 2004 have been fully considered but they are not persuasive.

On page 7 of the remarks, regarding the objection raised to claim 1, Applicant believes the amendment adequately responds to the objection and renders it moot. The Examiner respectfully disagrees. In spite of the amendments to the body of claim 1, a clear preamble, transition, and body is not presented. See the objection maintained above for a suggested solution.

On page 7 of the remarks, regarding the improper multiple dependent objection raised to claim 7, Applicant traverses the objection by stating a correction was submitted as a preliminary amendment filed on December 13, 2000. The Examiner notes the filing date of the instant application as December 18, 2000, and the record does not reflect receiving a preliminary amendment on, before, or after December 13, 2000. The Examiner notes the claims now reflect proper dependency.

Rejection Under 35 USC § 102

On page 8 of the remarks, regarding claims 1 and 9, the Applicant argues Chieu does not disclose or suggest *the receiving means of the slave units allocating fixed time slots which are not used for transmission of synchronization signals they are ready to receive or fixed time slots they are ready to receive with a setting which does not allow the reception of signals from the*

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master unit and the slave units also including transmission means which use one of the time slots in which the receiving means of the slave units are ready to receive, but reception of signals from the master unit is not enabled, in order to transmit signals for initiating a communication between themselves. The Examiner respectfully disagrees.

Chieu discloses in step 110, listening for an acknowledgement packet AP transmitted in the base station channel during a second predetermined period of time, Tpr (See column 6, lines 50-53.) The Examiner interprets step 110 of Chieu as *the slave unit allocating fixed time slots which are not used for transmission of synchronization signals they are ready to receive*, because Chieu has dedicated this time slot for an acknowledgement packet AP and not a synchronization signal.

Chieu further discloses in step 108, the primary portable unit transmits in the base station channel a calling packet CP during a first predetermined period of time, TPS, during the period of time when reception of signals from the master unit is not enabled, for establishing direct communication between the portable units (See column 6, lines 47-49.) The Examiner interprets step 108 of Chieu as *the slave units also including transmission means which use one of the time slots in which the receiving means of the slave units are ready to receive, but reception of signals from the master unit is not enabled, in order to transmit signals for initiating a communication between themselves*, because the primary portable unit (slave unit) is transmitting in time slot, TPS, and cannot receive a signal simultaneously in the same time slot, TPS, for establishing transmission with another portable unit (slave unit).

Therefore, Chieu discloses *the receiving means of the slave units allocating fixed time slots which are not used for transmission of synchronization signals they are ready to receive or*

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fixed time slots they are ready to receive with a setting which does not allow the reception of signals from the master unit and the slave units also including transmission means which use one of the time slots in which the receiving means of the slave units are ready to receive, but reception of signals from the master unit is not enabled, in order to transmit signals for initiating a communication between themselves.

On page 9 of the remarks, regarding claims 1 and 9, Applicant argues Chieu does not disclose disallowing reception of signals from the base stations. The Examiner respectfully disagrees. Chieu discloses a method and apparatus for direct communication in a TDMA radio communication system in which time slots are dedicated for the transmission and reception of signals between a base station and portable units. Time slots dedicated for transmission from the portable unit, by definition; disallow the reception of signals from the base station. Since, the same time slot cannot be used for both reception and transmission (For example, see column 6, lines 47-49.)

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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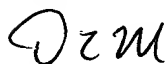
CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L Mills whose telephone number is 571-272-3094. The examiner can normally be reached on 8:00 AM to 4:30 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Donald L Mills



January 10, 2005


JONATHAN L. MILLER
PATENT EXAMINER